



APPENDIX B

GUIDELINES FOR THE PREPARATION OF A DESIGN CONCEPT REPORT

The following information is provided for guidance in the preparation of a Design Concept Report (DCR). The basic format is standard; however, the specifics and required information vary according to the type of project. The report should reflect the following major sections and be assembled in some type of binder.

A. TITLE PAGE

The title page should contain the following information:

- ◆ Highway or street name and number.
- ◆ Federal and TRACS project numbers.
- ◆ Project location (The beginning point and ending point of the project.).
- ◆ Sponsor of project (City or County).
- ◆ Author of Design Concept Report.
- ◆ Date.

B. INTRODUCTION

The introduction contains the project program information. State the fiscal year in which the project is programmed, the MPO/COG project number if available, and the type and amount of Federal funds programmed. Also provide the county or city the project is located in, the project route name including termini and functional classification, estimated cost, construction Federal fiscal year, and expected project development start and completion dates.

C. BACKGROUND DATA

This section addresses the year of construction, previous up-grade projects, existing typical section, general features such as structures, major drainage, major traffic control items, railroad crossings, major utilities, and accident history. This section should address the comparison of the design speed of the existing vertical and horizontal alignment to the current standards. Provide current and future traffic data, and K (Peak Hour/Urban Projects), D (Directional Distribution), and T (% Heavy Trucks) factors.

D. PROJECT SCOPE

Describe the project limits and the recommended project scope, such as grade and drain, surfacing, overlay, widening, bridge replacement or rehabilitation, etc.

E. PROJECT DEVELOPMENT CONSIDERATIONS

1. Environmental requirements as determined by the project scope
 - a. Potential Hazardous Waste sites

- b. 404 Permit requirements
 - c. Section 4(f) lands
 - d. Flood plain encroachment
 - e. Wetlands
 - f. Scenic or historic route
 - g. Noise mitigation
 - h. Archaeological impacts, mitigation measures
 - i. Biological, cultural, and social or economic impacts.
2. Critical Outside Agency Involvement
Describe any project locations that are likely to involve lengthy clearance procedures (Forest Service, BLM, Indian reservations, railroads, irrigation companies, major utilities)
3. Right-of-Way Requirements
Describe the general corridor right-of-way. Describe the general land ownership (Private, Forest Service, Bureau of Land Management BLM, etc.). Describe any R/W that will have to be acquired and how the R/W is expected to be acquired for the project (donation, purchase, or condemnation).
4. Utility Relocation Requirements
Describe any utility impacts, and how the relocation of the utilities is expected to be accomplished (work done by the utility company, bid item in the construction project). How is the work to be financed (local funds fed-aid funds)? Are there any "Prior Rights" issues for any utilities?
5. Seasonal Considerations
Is there any field survey work to be accomplished. Is there any mapping, field data collection or testing required? Describe the limits of the construction season.
6. Traffic Requirements
Is there a need for traffic control plans for this project? Will pavement markings and signing be included in the project? Will there be new traffic signals installed as part of the project?
7. Design Alternatives
Provide three design alternatives including the selected proposed scope of work. A full discussion of alternates is required. Any number of major alternates maybe significant depending upon the nature of a project. Drainage being one of the most obvious. Each design alternative should be given sufficient study to ensure that it is feasible. If an alternate paving section will be proposed this should be noted. Also identify any issues or specific design alternates that the DCR should address and evaluate.
8. Design Criteria



- ◆ Describe the design criteria to be used. Is the design criteria in concert with AASHTO, MAG, or PAG criteria?
- ◆ Features which do not comply with AASHTO criteria are described along with recommendations for either meeting the criteria or requesting a design exception. Design exceptions are approved by the appropriate ADOT Technical Section Manager.

F. SOCIAL, ECONOMIC, AND ENVIRONMENTAL CONSIDERATIONS

At the very minimum, the impacts associated with the following should be addressed:

1. Regional and community growth including general plans and proposed land use, total transportation requirements, and the status of the planning process.
2. Overview of potential hazardous waste sites, Section 401 & 404 Clean Water Act permits, flood plains, wetlands, historic and archaeological conservation and preservation, soil erosion and sedimentation, the general ecology of the area as well as man-made and other natural resources, such as parks and recreational facilities, wildlife and waterfowl areas, historic and natural landmarks.
3. Public facilities and services including religious, health and educational facilities, and public utilities, fire protection and other emergency services.
4. Community cohesion including residential and neighborhood character and stability, highway impacts on minority and other specific groups and interests, and effects on local tax base and property values.
5. Displacement of people, businesses, and farms including relocation assistance, availability of adequate replacement housing, economic activity (employment gains and losses, etc.)
6. Air, noise, and water pollution including consistency with approved air quality implementation plans, Federal Highway Administration noise level standards, and any relevant Federal or State water quality standards.
7. Aesthetic, and other values including visual quality, such as "view of the road" and "view from the road", and the joint development and multiple use of the space.

E. OTHER REQUIREMENTS

Describe the funding sources for the project. State the desired bid advertisement date. The construction start date will be 2 ½ months after the project has initially advertised for bid. Describe how the project will be developed (designed in-house, will hire a consultant firm). Will ADOT perform construction administration or will a request be made to approve the local jurisdiction to perform construction administration?

H. ESTIMATED COST

Describe the project cost by category:

- a. Design Cost to be funded with local funds or reimbursed with federal funds.
- b. Right-of-Way cost to be funded with local funds or reimbursed with federal funds.
- c. Utility relocation cost to be funded with local funds or reimbursed with federal funds.
- d. Construction cost (partial local funds or all to be reimbursed with federal funds).
- e. Total cost.

I. ITEMIZED ESTIMATE

Provide an itemized project cost estimate. If the construction is administered by ADOT, include 15% construction engineering and 5% contingency costs.

J. VICINITY MAP

Provide project location and vicinity maps.

K. TYPICAL SECTION SKETCH

Provide a typical section for the project including R/W limits and proposed pavement structural section, slopes, and lane and shoulder dimensions.